

WHAT IS CLAIMED IS:

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1. A magnetic disk evaluation apparatus,  
comprising:

an evaluation head for evaluating a  
magnetic disk; and

10 a support member for supporting the  
evaluation head,

wherein the support member supports the  
evaluation head in a state where a flying surface of  
the evaluation head and a surface of a magnetic disk  
15 make a flying pitch angle of  $95 \mu\text{rad}$  or more.

20 2. The magnetic disk evaluation apparatus  
as claimed in claim 1, wherein the support member  
supports the evaluation head at a position of  $0.78L$   
or more from an air inflow end part of the  
evaluation head, where  $L$  is defined as a whole  
25 length of the evaluation head in an airflow  
direction.

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3. The magnetic disk evaluation apparatus  
as claimed in claim 1, wherein a load of  $3.5 \text{ gf}$  or  
more is provided to the evaluation head by the  
support member.

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4. The magnetic disk evaluation apparatus  
as claimed in claim 1, wherein the evaluation head  
has a negative pressure inducing configuration, and  
thereby a negative pressure to attract the  
5 evaluation head to the magnetic disk on the basis of  
an airflow caused by a rotation of the magnetic disk  
is generated.

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5. The magnetic disk evaluation apparatus  
as claimed in claim 1, wherein a rigidity of an air  
film formed between the evaluation head and the  
15 magnetic disk is 0.33 gf/nm or more.

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6. The magnetic disk evaluation apparatus  
as claimed in claim 1, wherein a lower limit value  
of a flying-height of the evaluation head from the  
surface of the magnetic disk in a state where the  
glide height evaluation head is not in contact with  
25 the magnetic disk is evaluated by the evaluation  
head.

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7. The magnetic disk evaluation apparatus  
as claimed in claim 1, wherein the evaluation head  
includes a flying surface, and at least part of the  
flying surface is formed by a film of a protection  
35 material selected from a group consisting of an  
amorphous carbon, a diamond like carbon, a diamond  
like carbon to which hydrogen is added, and a

diamond like carbon to which nitride is added.

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8. The magnetic disk evaluation apparatus as claimed in claim 7, wherein at least part of the formed film of the protection material is fluoride-processed.

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9. The magnetic disk evaluation apparatus as claimed in claim 7, wherein a convex part projecting towards the magnetic disk is formed on a part of the formed film of the protection material.

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10. A magnetic disk evaluation apparatus including an evaluation head, comprising:

a contact detect means for detecting a contact with a magnetic disk on which a lubricant is applied and outputting a detected signal;

a detected signal dividing means for dividing the detected signal into frequency components of a first frequency band which are generated based on a contact between a convex part of the magnetic disk and the evaluation head, and frequency components of a second frequency band which are generated based on a contact between a convex part of the lubricant and the evaluation head; and

a contact decision means which is connected to the detected signal dividing means, and

detects a contact of the evaluation head with the  
convex part of the lubricant in response to  
detection of a signal component exceeding a  
designated threshold only in the second frequency  
5 band.

10 11. The magnetic disk evaluation apparatus  
as claimed in claim 10, wherein the contact decision  
means further decides that the evaluation head comes  
in contact with the convex part of the magnetic disk  
in case of that a signal component exceeding a  
15 designated threshold value at least in the first  
frequency band is included in the detect signal.

20 12. The magnetic disk evaluation apparatus  
as claimed in claim 10, wherein the first frequency  
band and the second frequency band are separated by  
a border frequency selected from 100 - 500 kHz on a  
25 basis of a configuration of the evaluation head.

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